

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-24. (canceled).

Claim 25. (currently amended) A method for controlling the transmission power in a radio system, the method comprising the steps of:

evaluating a signal received by a receiver via a transmission channel of the radio system from a transmitter;

producing power control information as a function of ~~this~~the signal;

sending the power control information, embedded in a time slot structure, to the transmitter;

setting the transmission power in the transmitter as function of the power control information;

coding, in the receiver, the power control information in a time slot, with the addition of redundancy, together with further data to be transmitted in the same time slot to form a common data word, with at least one bit value in the data word depending on the power control information and on the further data; and

transmitting the power control information to the transmitter, together with the further data to be transmitted in the same time slot.

Claim 26. (previously presented) A method for controlling the transmission power in a radio system as claimed in Claim 25, wherein the further data is data for format identification information.

Claim 27. (previously presented) A method for controlling the transmission power in a radio system as claimed in Claim 25, wherein the further data is user data.

Claim 28. (previously presented) A method for controlling the transmission power in a radio system as claimed in Claim 25, wherein the power control information is transmitted in binary form.

Claim 29. (previously presented) A method for controlling the transmission power in a radio system as claimed in Claim 28, wherein bits in the power control information are coded with bits of the further data to form a common binary data word.

Claim 30. (previously presented) A method for controlling the transmission power in a radio system as claimed in Claim 29, wherein the coded data word comprises a plurality of bits corresponding to a sum of the bits in the power control information and the bits in the further data.

Claim 31. (previously presented) A method for controlling the transmission power in a radio system as claimed in Claim 29, wherein, during the coding process, at least one bit in the coded data word is assigned a value of the power control information to be transmitted in the corresponding time slot.

Claim 32. (previously presented) A method for controlling the transmission power in a radio system as claimed in Claim 29, wherein, during the coding process, at least one bit in the coded data word is assigned a value of the power control information to be transmitted in the corresponding time slot from the further data.

Claim 33. (previously presented) A method for controlling the transmission power in a radio system as claimed in Claim 29, wherein, during the coding process, at least one bit in the coded data word is assigned a value which corresponds to a logic operation between the power control information to be transmitted in the corresponding time slot and the information to be transmitted in the same time slot from the further data.

Claim 34. (previously presented) A method for controlling the transmission power in a radio system as claimed in Claim 33, wherein a logic exclusive-OR operation is used as the logic operation.

Claim 35. (previously presented) A method for controlling the transmission power in a radio system as claimed in Claim 33, the method further comprising the step of:

recovering the power control information in the transmitter via appropriate decoding, with an estimated value being determined for the power control information during the decoding process based on the value obtained by the logic operation from the corresponding bit in the coded data word.

Claim 36. (previously presented) A method for controlling the transmission power in a radio system as claimed in Claim 25, wherein the receiver which produces the coded power control information is a base station in a mobile radio system, and the transmitter which received the power control information and sets its transmission level appropriately is a mobile station in the mobile radio system, such that the coded power control information is transmitted via a downlink connection between the receiver and the transmitter.

Claim 37. (previously presented) A radio system, comprising:
a transmitter; and

a receiver for receiving a signal from the transmitter, which is transmitted via a transmission channel of the mobile radio system, and for evaluating the received signal to produce power control information which is dependant on the received signal and to send the power control information, embedded in a time slot structure, to the transmitter, wherein the transmitter sets transmission power as a function of the power control information from the receiver, the receiver coding the power control information for a time slot, with the addition of redundancy, together with further data to be transmitted in the same time slot to form a common data word, with at least one bit value in the data word depending on the power control information and on the further data, and transmitting the power information to the transmitter, together with the further data to be transmitted in the same time slot.

Claim 38. (previously presented) A radio system as claimed in Claim 37, wherein the receiver codes the power control information together with data from format identification information for the same time slot.

Claim 39. (previously presented) A radio system as claimed in Claim 37, wherein the receiver codes the power control information together with user data for the same time slot.

Claim 40. (previously presented) A radio system as claimed in Claim 37, wherein the receiver send the power control information to the transmitter in a binary form.

Claim 41. (previously presented) A radio system as claimed in Claim 40, wherein the receiver codes bits in the power control information together with bits in the further data to form a common binary data word.

Claim 42. (previously presented) A radio system as claimed in Claim 41, wherein the receiver, during the coding process, assigns at least one bit in the coded common data word a value of the power control information to be transmitted in the corresponding time slot.

Claim 43. (previously presented) A radio system as claimed in Claim 41, wherein the receiver, during the coding process, assigns at least one bit in the coded common data word a value of the power control information to be transmitted in the corresponding time slot from the further data.

Claim 44. (previously presented) A radio system as claimed in Claim 41, wherein the receiver, during the coding process, assigns at least one bit in the coded common data word a value which corresponds to a logic operation between the power control information to be transmitted in the corresponding time slot and the information to be transmitted in the same time slot from the further data.

Claim 45. (previously presented) A radio system as claimed in Claim 44, wherein the logic operation carried out by the receiver during the coding process is a logic exclusive-OR operation.

Claim 46. (previously presented) A radio system as claimed in Claim 44, wherein the transmitter, after receiving the coded common data word, recovers the power control information via appropriate decoding and determines an estimated value for the power control information based on the value obtained by the logic operation from the corresponding bit in the coded common data word.

Claim 47. (previously presented) A radio system as claimed in Claim 37, wherein the radio system is a CDMA mobile radio system.

Claim 48. (previously presented) A radio system as claimed in Claim 47, wherein the receiver which produces the coded binary power control information is a base station in the mobile radio system, and the transmitter which receives the power control information and sets its transmission power appropriately is a mobile station in the mobile radio system.